Amendments To the Claims:

Please amend the claims as shown. Applicants reserve the right to pursue any cancelled claims at a later date.

1. (cancelled)

2. (new) A method for testing and prequalification of subscriber access lines for broadband services comprising the following steps:

applying a time-discrete multicarrier transmit signal formed in accordance with

$$s(n)=\sum_{k=0}^{M}\sum_{l=0}^{N}c_{k,l}\,g(n-lN_T)\exp\left(j2\pi\frac{nk}{M_F}\right)$$

to a test point of a subscriber access line;

measuring the echo pulse response y(n) of the subscriber access line at the test point;

determining second complex-valued random coefficients $d_{k,l}$ from the echo pulse response according to

$$d_{k,l}=\sum_{n=(l-1)N_T}^{n=(l+1)N_T}y(n)\gamma(n-lN_T)\exp\left(-j2\pi\frac{nk}{M_F}\right),\ \text{wherein}$$

an empirical estimate of the cross-correlation function $\tilde{W}_h(p,q)$ of the signals formed from the indices $c_{k,l}$ and $d_{k,l}$ by two-dimensional discrete Fourier transformation

$$C_{m,n}^{(i)}=\sum_{m=0}^{N_T}\sum_{l=i}^{i+K-1}c_{k,l}\exp\left(-j2\pi\left(\frac{mk}{N_T}+\frac{nl}{K}\right)\right)$$

$$D_{m,n}^{(i)}=\sum_{m=0}^{N_T}\sum_{l=i}^{i+K-1}d_{k,l}\exp\left(-j2\pi\left(\frac{mk}{N_T}+\frac{nl}{K}\right)\right)$$

is determined according to

$$K_{m,k}^{(i+1)} = (1-\lambda)K_{m,k}^{(i)} + \lambda C_{m+n,k}^{(i)} W_g(m+n,k)\overline{D_{m,n}^{(i)}}\,\overline{W_\gamma}(m,k)$$

(where $0 < \lambda < 1$ is a forgetting factor which must be selected according to the entire averaging length of the measurement depending on the computing accuracy of the processor used);

performing according to the estimation of the cross-correlation function, an estimation of the power density spectrum of any noise signals according to

$$S_{noise,k}^{(i+1)} = (1-\lambda)S_{noise,k}^{(i)} + \lambda \left| d_{i,k} \right|^2 ,$$

comparing the empirical estimate of the cross-correlation function $\tilde{W}_h(p,q)$ with the stored values of measured reference lines $T^{(k,m)}(p,q)$; and

determining the physical parameters of the subscriber access line.

3. (new) A method for testing and prequalification of subscriber access lines for broadband services comprising the following steps:

applying a time-discrete multicarrier transmit signal formed in accordance with

$$s(n) = \sum_{k=0}^{M}\sum_{l=0}^{N} c_{k,l}\, g(n - lN_T)\exp\left(j2\pi \frac{nk}{M_F} \right)$$

to a test point of a subscriber access line, wherein

the echo pulse response y(n) of the subscriber access line is measured at the test point, wherein

from the echo pulse response, second complex-valued random coefficients $d_{k,l}$ are determined according to

$$d_{k,l} = \sum_{n=(l-1)N_T}^{n=(l+1)N_T} y(n)\gamma(n - lN_T)\exp\left(- j2\pi \frac{nk}{M_F} \right) ,$$ wherein

the empirical estimate of the cross-correlation function $\tilde{W}_h(p,q)$ of the signals formed

from the indices $c_{k,l}$ and $d_{k,l}$ by two-dimensional discrete Fourier transformation

$$C_{m,n}^{(i)} = \sum_{m=0}^{N_T} \sum_{l=i}^{i+K-1} c_{k,l} \exp\left(-j2\pi\left(\frac{mk}{N_T} + \frac{nl}{K}\right)\right)$$

$$D_{m,n}^{(i)} = \sum_{m=0}^{N_T} \sum_{l=i}^{i+K-1} d_{k,l} \exp\left(-j2\pi\left(\frac{mk}{N_T} + \frac{nl}{K}\right)\right)$$

is determined according to

$$K_{m,k}^{(i+1)} = (1-\lambda) K_{m,k}^{(i)} + \lambda C_{m+n,k}^{(i)} W_g(m+n,k) \overline{D}_{m,n}^{(i)} \overline{W}_\gamma(m,k)$$

(where $0 < \lambda < 1$ is a forgetting factor which must be selected according to the entire averaging length of the measurement depending on the computing accuracy of the processor used), and wherein

similarly to the estimation of the cross-correlation function, an estimation of the power density spectrum of any noise signals is performed according to

$$S_{noise,k}^{(i+1)} = (1-\lambda) S_{noise,k}^{(i)} + \lambda \left| d_{i,k} \right|^2$$, wherein

the empirical estimate of the cross-correlation function $\tilde{W}_h(p,q)$ is compared with the stored values of measured reference lines $T^{(k,m)}(p,q)$, and wherein from the comparison, the physical parameters of the subscriber access line are determined.